

## ACTION SHEET 1

### ADVANCED CONTAINMENT AND SURVEILLANCE

Pursuant to the DOE/JAERI Agreement on R&D in Material Control, Accountancy, Verification, and Physical Protection

#### A. Objective

The joint development, testing, and/or evaluation of advanced containment and surveillance devices and systems to be used by the International Atomic Energy Agency for independent verification of nuclear material with the aim of improving the efficiency and effectiveness of international safeguards.

#### B. Current Activities

##### 1. DOE activities relevant to advanced containment and surveillance.

Sandia National Laboratories (SNL) is currently the lead laboratory in the U.S. for the development and evaluation of containment and surveillance (C/S) devices and systems as well as C/S-based safeguards concepts for potential use in international safeguards. Current activities sponsored by DOE include:

- Optical Surveillance Data Review Station;
- Advanced Portable Surveillance Unit;
- Operator Interfaced Video System;
- Integrated Monitoring Systems;
- Fuel Assembly Seals;
- Evaluation of technologies and equipment for video compression, video/digital authentication, monitoring, and tagging; and
- C/S-based concepts for nuclear facilities.

##### 2. JAERI activities relevant to advanced containment and surveillance.

The JAERI Safeguards Technology Laboratory (STL) at the Tokai Research Establishment has performed R & D on C/S technology for use at JAERI facilities and for use by the IAEA. Current STL activities include:

- Fast Critical Assembly Portal/Penetration Monitoring System;
- Compact Surveillance Monitoring System (COSMOS) CCTV System;
- Automatic Cobra Seal Verifier;
- Upgrade of Remote Continuous Verification (RECOVER) System; and
- Development of a Video Review Device.

### C. Bilateral Activities

Planned bilateral activities will include periodic exchanges of information on current and planned developmental activities; laboratory evaluation by SNL of the COSMOS CCTV System and Automatic Cobra Seal Verifier; and joint evaluations or development of advanced C/S equipment or concepts.

#### Approvals:

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